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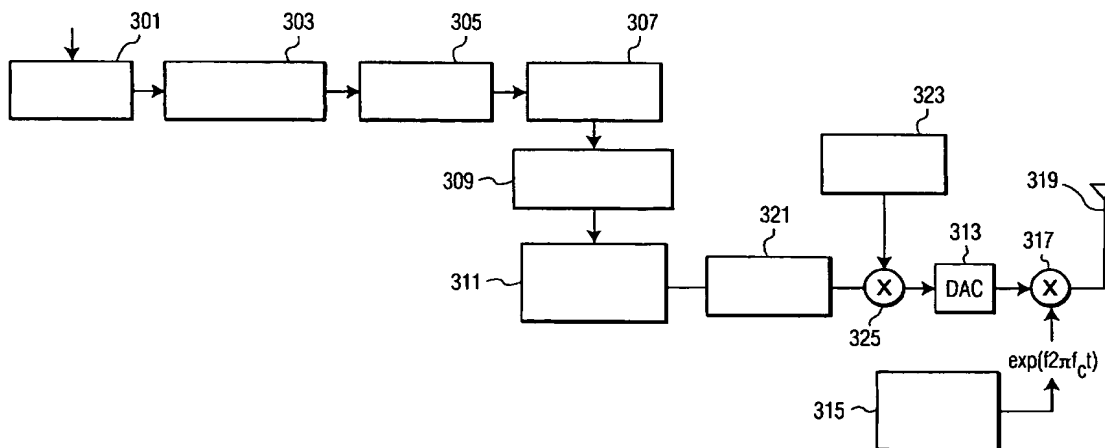
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(54) Title: **MULTI-CARRIER OFDM UWB COMMUNICATIONS SYSTEMS**



(57) Abstract: Multiple subbands of a transmission band are continuously occupied by an OFDM signal that would otherwise occupy only a single subband. Steps may include producing an OFDM symbol (309); transforming the OFDM symbol to produce an OFDM signal (311); upsampling the OFDM signal to produce an upsampled OFDM signal (321); applying a pseudorandom code (323) to the upsampled OFDM signal to produce a coded OFDM signal; and upconverting (317) the coded OFDM signal to produce a radio frequency signal. Alternatively, steps may include upconverting the OFDM signal to produce a radio frequency signal; wherein the radio frequency signal occupies multiple ones of the following subbands: about 3200MHz to about 3700MHz; about 3700MHz to about 4200MHz; and about 4200MHz to about 4800MHz. In another embodiment, steps may include producing a sequence of N consecutive identical OFDM symbols.

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**Declarations under Rule 4.17:**

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